

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) An absorbent article comprising a longitudinal direction, a transverse direction, a liquid permeable upper surface, a liquid impermeable lower surface, and an absorbent structure arranged between the liquid permeable upper surface and the liquid impermeable lower surface, which article in the longitudinal direction has a crotch portion and two end portions, wherein the absorbent structure comprises an acquisition layer and at least one first storage layer, wherein said first storage layer comprises at least 50 percent by weight of a super absorbent material calculated on the total weight of the first storage layer, wherein the first storage layer in a dry condition has a density exceeding 0.4 g/cm^3 , and said first storage layer in the crotch portion of the absorbent structure has at least one longitudinally extending apertures aperture having a longitudinal dimension in the longitudinal direction of the article that is greater than a transverse dimension in the transverse direction of the article, the aperture extending through an entire thickness of the first storage layer,

wherein the first storage layer has a first surface facing the liquid permeable upper surface of the article, and a second surface facing away from the liquid permeable surface of the article, wherein the first storage layer lies between the acquisition layer and the liquid permeable upper surface.

2. (Original) The absorbent article according to claim 1, wherein the first storage layer has a density exceeding 0.5 g/cm^3 .

3. (Original) The absorbent article according to claim 1, wherein the first storage layer comprises at least 70 percent by weight of a super absorbent material calculated on the total weight of the first storage layer.

4. (Canceled)

5. (Currently Amended) The absorbent article according to claim 1, wherein the ~~apertures comprise~~ at least one aperture comprises a longitudinal channels channel.

6. (Previously Presented) The absorbent article according to claim 1, wherein material between the apertures, in the crotch portion of the first storage layer, exhibits a width being maximally 20 mm.

7-8. (Canceled)

9. (Previously Presented) The absorbent article according to claim 1, wherein the absorbent article comprises a liquid permeable top sheet, wherein the liquid permeable top sheet and the acquisition layer are thermally joined in a hollow space in the first storage layer created by said apertures.

10. (Currently Amended) ~~An~~ ~~The~~ absorbent article ~~according to claim 1,~~
comprising a liquid permeable upper surface, a liquid impermeable lower surface,
and an absorbent structure arranged between the liquid permeable upper surface
and the liquid impermeable lower surface, which article in the longitudinal direction
has a crotch portion and two end portions, wherein the absorbent structure
comprises an acquisition layer and at least one first storage layer, wherein said first
storage layer comprises at least 50 percent by weight of a super absorbent material
calculated on the total weight of the first storage layer, wherein the first storage layer
in a dry condition has a density exceeding 0.4 g/cm^3 , and said first storage layer in
the crotch portion of the absorbent structure has longitudinally extending apertures
extending through an entire thickness of the first storage layer,

wherein the first storage layer has a first surface facing the liquid
permeable upper surface of the article, and a second surface facing away from the
liquid permeable surface of the article, wherein the first storage layer lies between
the acquisition layer and the liquid permeable upper surface, and

wherein the acquisition layer is a ~~polyacrylate-based~~ super absorbent
foam material.

11. (Previously Presented) An absorbent article comprising a liquid
permeable upper surface, a liquid impermeable lower surface, and an absorbent
structure arranged between the liquid permeable upper surface and the liquid
impermeable lower surface, which article in the longitudinal direction has a crotch
portion and two end portions, wherein the absorbent structure comprises an
acquisition layer and at least one first storage layer, wherein said first storage layer
comprises at least 50 percent by weight of a super absorbent material calculated on

the total weight of the first storage layer, wherein the first storage layer in a dry condition has a density exceeding 0.4 g/cm^3 , and said first storage layer in the crotch portion of the absorbent structure has longitudinally extending apertures extending through an entire thickness of the first storage layer, wherein

the first storage layer has a first surface facing the liquid permeable upper surface of the article, and a second surface facing away from the liquid permeable surface of the article, wherein the first storage layer lies between the acquisition layer and the liquid permeable upper surface,

the acquisition layer is a polyacrylate based super absorbent foam material, and

said foam material exhibits a Gurley stiffness value lower than 1000 mg and a density in a dry condition exceeding 0.5 g/cm^3 .

12. (Currently Amended) An The absorbent article according to claim 1, comprising a liquid permeable upper surface, a liquid impermeable lower surface, and an absorbent structure arranged between the liquid permeable upper surface and the liquid impermeable lower surface, which article in the longitudinal direction has a crotch portion and two end portions, wherein the absorbent structure comprises an acquisition layer and at least one first storage layer, wherein said first storage layer comprises at least 50 percent by weight of a super absorbent material calculated on the total weight of the first storage layer, wherein the first storage layer in a dry condition has a density exceeding 0.4 g/cm^3 , and said first storage layer in the crotch portion of the absorbent structure has longitudinally extending apertures extending through an entire thickness of the first storage layer.

wherein the first storage layer has a first surface facing the liquid permeable upper surface of the article, and a second surface facing away from the liquid permeable surface of the article, wherein the first storage layer lies between the acquisition layer and the liquid permeable upper surface, and

wherein the acquisition layer is a fibrous layer including polyacrylate-based particles or a polyacrylate-based coating bonded to the fibrous layer, wherein the polyacrylate-based particles or the polyacrylate-based coating is bonded to the fibrous layer by spraying acrylic acid monomers onto the fibrous layer whereby the acrylic acid monomer is allowed to polymerise.

13. (Original) The absorbent article according to claim 1, wherein the acquisition layer is corona treated.

14. (Previously Presented) The absorbent article according to claim 1, wherein the absorbent structure further comprises a second storage layer containing a lower amount of super absorbent material calculated on the total weight of the storage layer than the first storage layer, the second storage layer being arranged between the acquisition layer and the liquid impermeable lower surface.

15. (Currently Amended) An ~~The~~ absorbent article ~~according to claim 1,~~ comprising a liquid permeable upper surface, a liquid impermeable lower surface, and an absorbent structure arranged between the liquid permeable upper surface and the liquid impermeable lower surface, which article in the longitudinal direction has a crotch portion and two end portions, wherein the absorbent structure comprises an acquisition layer and at least one first storage layer, wherein said first

storage layer comprises at least 50 percent by weight of a super absorbent material calculated on the total weight of the first storage layer, wherein the first storage layer in a dry condition has a density exceeding 0.4 g/cm³, and said first storage layer in the crotch portion of the absorbent structure has longitudinally extending apertures extending through an entire thickness of the first storage layer,

wherein the first storage layer has a first surface facing the liquid permeable upper surface of the article, and a second surface facing away from the liquid permeable surface of the article, wherein the first storage layer lies between the acquisition layer and the liquid permeable upper surface, and

wherein the absorbent structure further comprises a second storage layer and wherein the second storage layer partly or entirely encloses the first storage layer, the second storage layer being arranged between the acquisition layer and the liquid impermeable lower surface.

16. (Currently Amended) An absorbent article comprising a longitudinal direction, a transverse direction, a liquid permeable upper surface, a liquid impermeable lower surface, and an absorbent structure arranged between the liquid permeable upper surface and the liquid impermeable lower surface, which article in the longitudinal direction has a crotch portion and two end portions, wherein the absorbent structure comprises an acquisition layer and at least one first storage layer comprising a super absorbent material, the first storage layer having a greater ability to retain liquid than the acquisition layer, and being located between the acquisition layer and liquid permeable upper surface and said first storage layer in the crotch portion of the absorbent structure has at least one longitudinally extending apertures aperture having a longitudinal dimension in the longitudinal direction of the

article that is greater than a transverse dimension in the transverse direction of the article, the aperture extending through an entire thickness of the first storage layer, wherein the first storage layer has a first surface facing the liquid permeable upper surface of the article, and a second surface facing away from the liquid permeable surface of the article.

17. (Original) The absorbent article according to claim 16, wherein the first storage layer comprises at least 50 percent by weight of a super absorbent material calculated on the total weight of the first storage layer.

18. (Original) The absorbent article according to claim 16, wherein the first storage layer in a dry condition has a density exceeding 0.4 g/cm^3 .

19-21. (Canceled)

22. (Previously Presented) The absorbent article according to claim 16, wherein the absorbent structure further comprises a second storage layer containing a lower amount of super absorbent material calculated on the total weight of the storage layer than the first storage layer, the second storage layer being arranged between the acquisition layer and the liquid impermeable lower surface.

23. (Currently Amended) An The absorbent article according to claim 16, comprising a liquid permeable upper surface, a liquid impermeable lower surface, and an absorbent structure arranged between the liquid permeable upper surface and the liquid impermeable lower surface, which article in the longitudinal direction

has a crotch portion and two end portions, wherein the absorbent structure comprises an acquisition layer and at least one first storage layer comprising a super absorbent material, the first storage layer having a greater ability to retain liquid than the acquisition layer, and being located between the acquisition layer and liquid permeable upper surface and said first storage layer in the crotch portion of the absorbent structure has longitudinally extending apertures extending through an entire thickness of the first storage layer,

wherein the first storage layer has a first surface facing the liquid permeable upper surface of the article, and a second surface facing away from the liquid permeable surface of the article, and

wherein the absorbent structure further comprises a second storage layer and wherein the second storage layer partly or entirely encloses the first storage layer, the second storage layer being arranged between the acquisition layer and the liquid impermeable lower surface.

24-25. (Canceled)

26. (Currently Amended) The absorbent article according to claim 1, wherein the ~~apertures or recesses are~~ at least one aperture is in the form of a longitudinal ~~channels~~ channel adapted to direct liquid in a direction towards the end portions of the absorbent structure.

27. (Currently Amended) The absorbent article according to claim 1, wherein the ~~apertures or recesses are spaces~~ at least one aperture is a space capable of holding liquid before the liquid is absorbed by the first storage layer.

28. (Currently Amended) The absorbent article according to claim 16, wherein the ~~apertures are~~ at least one aperture is in the form of a longitudinal channel adapted to direct liquid in a direction towards the end portions of the absorbent structure.

29. (Currently Amended) The absorbent article according to claim 16, wherein the ~~apertures are spaces~~ at least one aperture is a space capable of holding liquid before the liquid is absorbed by the first storage layer.

30. (New) The absorbent article according to claim 10, wherein the super absorbent foam material is polyacrylate based.

31. (New) The absorbent article according to claim 16, wherein the acquisition layer is a super absorbent foam material.

32. (New) The absorbent article according to claim 31, wherein the super absorbent foam material is polyacrylate based.

33. (New) The absorbent article according to claim 16, wherein the acquisition layer is a fibrous layer including polyacrylate-based particles or a polyacrylate-based coating bonded to the fibrous layer, wherein the polyacrylate-based particles or the polyacrylate-based coating is bonded to the fibrous layer by spraying acrylic acid monomers onto the fibrous layer whereby the acrylic acid monomer is allowed to polymerise.

34. (New) The absorbent article according to claim 1, wherein the first storage layer directly contacts the liquid permeable upper surface, and the at least one longitudinally extending aperture is empty.

35. (New) The absorbent article according to claim 16, wherein the first storage layer directly contacts the liquid permeable upper surface, and the at least one longitudinally extending aperture is empty.